



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

June 20, 2012

Via E-mail

Mr. John H. Karnes  
Chief Financial Officer  
KiOR, Inc.  
13001 Bay Park Road  
Pasadena, TX 77507

**Re: KiOR, Inc.**  
**Form 10-K/A for the Fiscal Year Ended December 31, 2011**  
**Filed April 27, 2012**  
**File No. 1-35213**

Dear Mr. Karnes:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K/A for the Fiscal Year Ended December 31, 2011

Executive Compensation, page 5

Compensation Discussion and Analysis, page 5

Elements of Compensation for Our Named Executive Officers, page 7

Annual Bonuses, page 8

1. You state that the compensation committee awarded bonuses for 2011 performance to your named executive officers at 150% of each NEO's target bonus. With a view toward future disclosure, please tell us:

- what the performance targets were for each NEO,
- what the target bonuses were for each NEO,

- whether there were threshold or maximum target and bonus levels and if so, how the bonus would be determined if performance fell within those target ranges,
- how actual performance compared to the performance targets, and
- how you determined to award bonuses at 150% of each NEO's target bonus.

Refer to Item 402(b)(2)(v) of Regulation S-K.

Equity Compensation, page 8

2. With a view toward future disclosure, to the extent that you granted equity compensation in addition to that granted as annual bonuses, please discuss how you determined the amount of equity compensation to grant to the NEOs. In future filings, please disclose any performance objectives, financial metrics, targets, benchmarking data, or compensation committee discretion that you considered in granting equity compensation. Your disclosure should indicate the compensation decisions made with regard to equity compensation as well as how those decisions were made. Refer to Item 402(b) of Regulation S-K.

Compensation Decision Process, page 11

3. In the last paragraph on page 11, you state that the compensation committee uses benchmarking data as a reference in determining appropriate levels of compensation. Please tell us whether you benchmarked each element of 2011 compensation to that of the peer group. If you engaged in benchmarking 2011 compensation, please tell us, with a view toward future disclosure, (i) where you benchmarked each element of compensation and/or total compensation relative to that of the peer group and (ii) how actual compensation for each element of compensation and/or total compensation compared to that of the peer group.

Summary Compensation Table, page 14

4. You disclose stock awards in the Summary Compensation Table. In future filings, please discuss the decisions made with respect to these awards in the "Compensation Discussion and Analysis."
5. Please tell us why you included the stock award annual bonuses granted to the NEOs in the "Non-Equity Incentive Plan Compensation" column rather than the "Stock Awards" column.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are

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in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Jessica Dickerson at (202) 551-3749 or Craig Slivka at (202) 551-3729 if you have questions regarding these comments.

Sincerely,

/s/ John Cash

John Cash  
Accounting Branch Chief